

II. REMARKS

Claims 1-17 are pending. Claim 1 is amended and new claim 17 is added. The amendments are supported by the specification and the originally filed claims. In particular, the amendments to claim 1 and claim 17 are supported by, for example, page 7, lines 15-19 of the specification. No new matter is added.

Applicants thank the Examiner for again indicating that claims 4 and 5 would be allowable if rewritten in independent form.

Claims 4-5 are objected to and claims 1-3 and 6-16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Abusleme et al. (EP 1,038,914) in view of Stoeppelmann (U.S. Patent No. 5,869,157). This rejection is respectfully traversed.

The bilayers A/B of the presently claimed invention show the unexpected results of a high adhesion such that no delamination occurs between the layers. The present invention achieves such a high adhesion by the novel combination of: (1) fluorinated layer A) made of "thermoprocessable copolymers of ethylene with chlorotrifluoroethylene, and/or tetrafluoroethylene, and with acrylic monomers"; and (2) non fluorinated layer B) "based on polyamides having an amount of -NH₂ end groups lower than 40 µeq/g" (see, e.g., claims 1 and 6). The working examples in the present specification demonstrate that no other technical features are necessary to achieve high adhesion between the layers.

In contrast, Applicants maintain that a combination of the disclosures of Abusleme et al. and Stoeppelmann would result in multilayers formed of a fluoropolymer layer, an intermediate layer, and a hydrogenated layer where the fluorolayer made of ECTFE

containing acrylic monomer (a) always contains a crosslinking agent as an essential feature to obtain adhesion to polyamides, and the intermediate layer, when made of a polyamide having an excess -NH₂ end groups (see, e.g., co1.4, lines 1-14)), is always admixed with a diamine as an essential feature to obtain adhesion to fluoropolymers.

Applicants note that present claim 1 discloses “[m]ultilayer manufactured articles consisting essentially of: A) a layer consisting of thermoprocessable copolymers of ethylene with chlorotrifluoroethylene, and/or tetrafluoroethylene, and with acrylic monomers ... ; and B) a layer consisting essentially of polyamides having an amount of – NH₂ end groups in the range of 40-300 µeq/g...” (emphasis added). Accordingly, Applicants respectfully submit that present claim 1 clearly distinguishes from the combination of Abusleme et al. and Stoeppelmann in that the crosslinking agent and the diamine disclosed by the cited references as essential features are not essential features in the present multilayer to obtain adhesion and that no delamination occurs between the layers A) and B) of the presently claimed invention.

The Applicant has in fact demonstrated that a copolymer of E, CTFE (or TFE) and acrylic monomer (a) without crosslinking agents adheres only to particular polyamides having a content of NH₂ end group higher than 40 µeq/g. See Examples 1, 3 in comparison with Comparative Example 2. In contrast Example A (comparative) of Abusleme et al. shows that no adhesion is obtained between PA 12 (polymer D) and ECTFE containing acrylic monomer (a) in the absence of a crosslinking agent (polymer A) (Abusleme et al., page 7, paragraph [0060]).

The Applicant has also demonstrated that polyamides having a content of -NH₂ end groups of at least 40 μ eq/g adhere, in the absence of diamine, only to fluoropolymers formed by E, CTFE (or TFE) and acrylic monomer (a). As such, diamine is not an essential feature in the multilayers of present claim 1. See Examples 1, 3, 6, 8, and 11.

Meanwhile, present claim 6, discloses multilayer manufactured articles that include "A) a layer consisting essentially of thermoprocessable copolymers of ethylene with chlorotrifluoroethylene, and/or tetrafluoroethylene, and with acrylic monomers ...; and B) a layer based on polyamides having an amount of -NH₂ end groups lower than 40 μ eq/g, blended with 0.01-5% by weight of one or more diamines" (emphasis added). Applicants respectfully maintain that the adhesion to the thermoprocessable copolymers of A) is obtained without using crosslinking agent, annealing or prolonged storage, as is required by Abusleme et al. and/or Stoeppelmann when using a polyamide balanced in -NH₂ end groups and admixed with a diamine (see, e.g., Stoeppelmann, column 4, lines 19-26). The achievement of adhesion without a crosslinking agent, in direct contrast to the teachings of the cited references, provides one of the novel and basic characteristics of the present claim 6.

For at least the above reasons, Applicants respectfully request reconsideration and withdrawal of the rejection of claims 1-3, 6-9, and 11-16 under 35 U.S.C. § 103(a) over Abusleme et al. in view of Stoeppelmann.

Claim 10 is rejected under 35 U.S.C. § 103(a) as being unpatentable over Abusleme et al. in view of Stoeppelmann as applied to claim 1, and further in view of Krause et al. (U.S. patent No. 5,958,532). This rejection is traversed.

Applicants submit that Krause et al. does not satisfy the deficiencies of Abusleme et al. and Stoeppelmann. Please see the above discussion of Abusleme et al. and Stoeppelmann. As such, Applicants respectfully submit that dependent claim 10 is patentable for at least the same reasons as independent claim 1.


As Abusleme et al., Stoeppelmann, and Krause et al. do not teach or suggest all of the elements of claim 10, Applicants respectfully submit that those of skill in the art would not have found claim 10 obvious over the disclosure of the cited combination of references. Thus, for at least the above reasons, Applicants respectfully request reconsideration and withdrawal of the rejection of claim 10 under 35 U.S.C. § 103(a) over Abusleme et al. in view of Stoeppelmann as applied to claim 1, and further in view of Krause et al.

III. Conclusion

In view of the amendments and remarks above, Applicants respectfully submit that this application is in condition for allowance and request favorable action thereon. If the Examiner believes that anything further is desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact Applicants' undersigned representative at the telephone number listed below to schedule a personal or telephone interview to discuss any remaining issues.

In the event that this paper is not considered to be timely filed, an appropriate extension of time is requested. Any fees for such an extension, together with any additional fees that may be due with respect to this paper, may be charged to counsel's Deposit Account Number 01-2300, referencing Docket Number 108910-00057.

Respectfully submitted,


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Enclosure: Petition for Extension of Time (one month)